



Telecommunications & Warning Systems





03/23/07 14:29







Telecommunications Section

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graph TD; TM[Telecommunications Section] --- DM[Don Miller  
Telecommunications and Warning Systems Manager]; DM --- V[ ]; V --- DR[Dave Rider  
Information Technology Spec 3  
WebEOC Administrator]; V --- TP[Tim Palmer  
Information Technology Systems Spec 5  
Automation Supervisor]; V --- JR[Jocelyn Redmond  
Information Technology Systems Spec 4  
LAN Manager]; V --- ET[Ed Toft  
Information Technology Systems Spec 3  
Help Desk/Network Support]; V --- MB[Mario Badua  
Senior Program Coordinator 3  
Telecommunications Planner]; V --- RB[Roy Benavente  
Program Coordinator 2  
Telecommunications Technician]; V --- MN[Michael Namchek  
Program Coordinator 3  
Telecommunications Technician];
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Don Miller

Telecommunications and
Warning Systems Manager

Tim Palmer

Information Technology Systems Spec 5
Automation Supervisor

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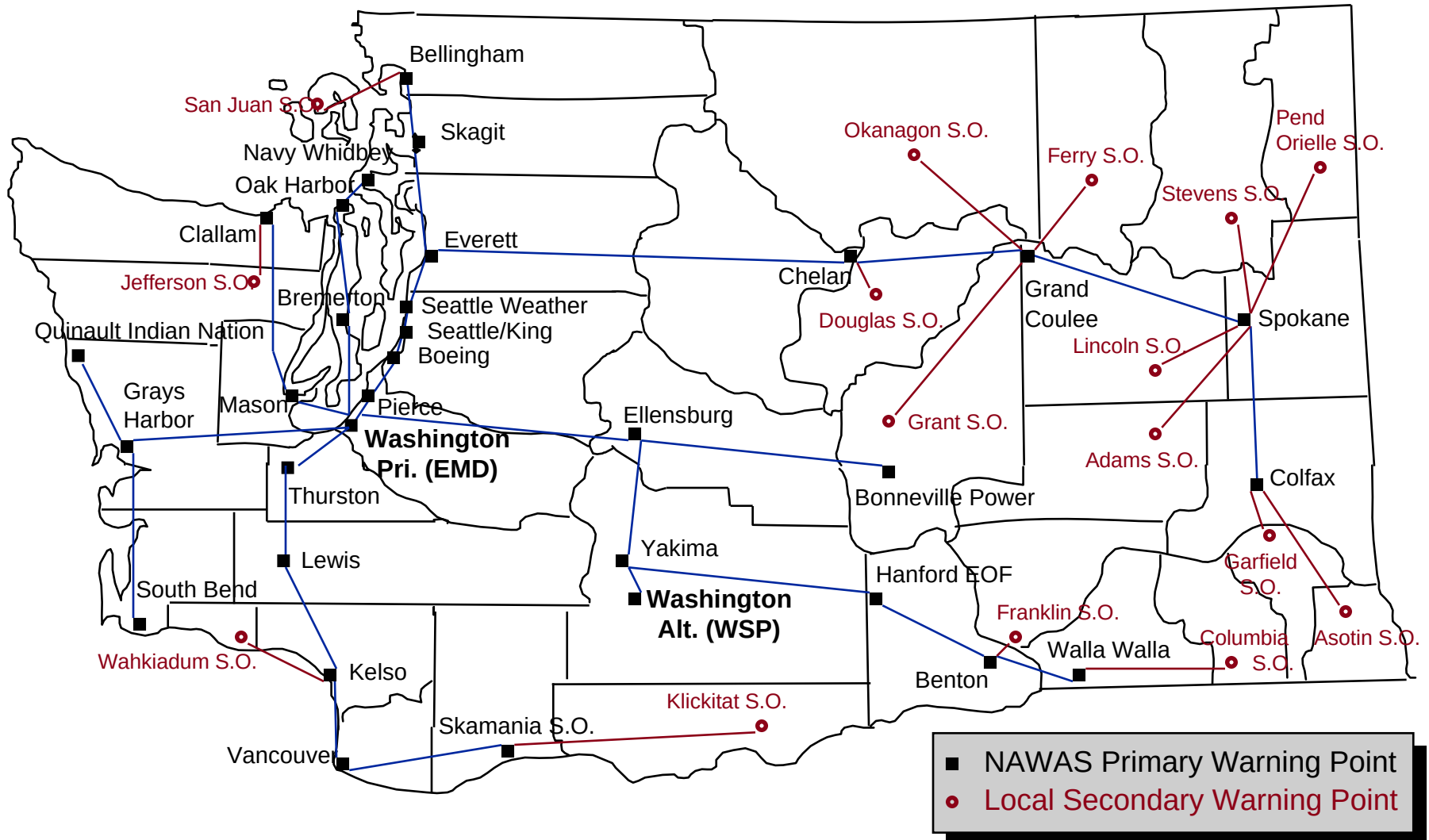
Roy Benavente

Program Coordinator 2
Telecommunications Technician

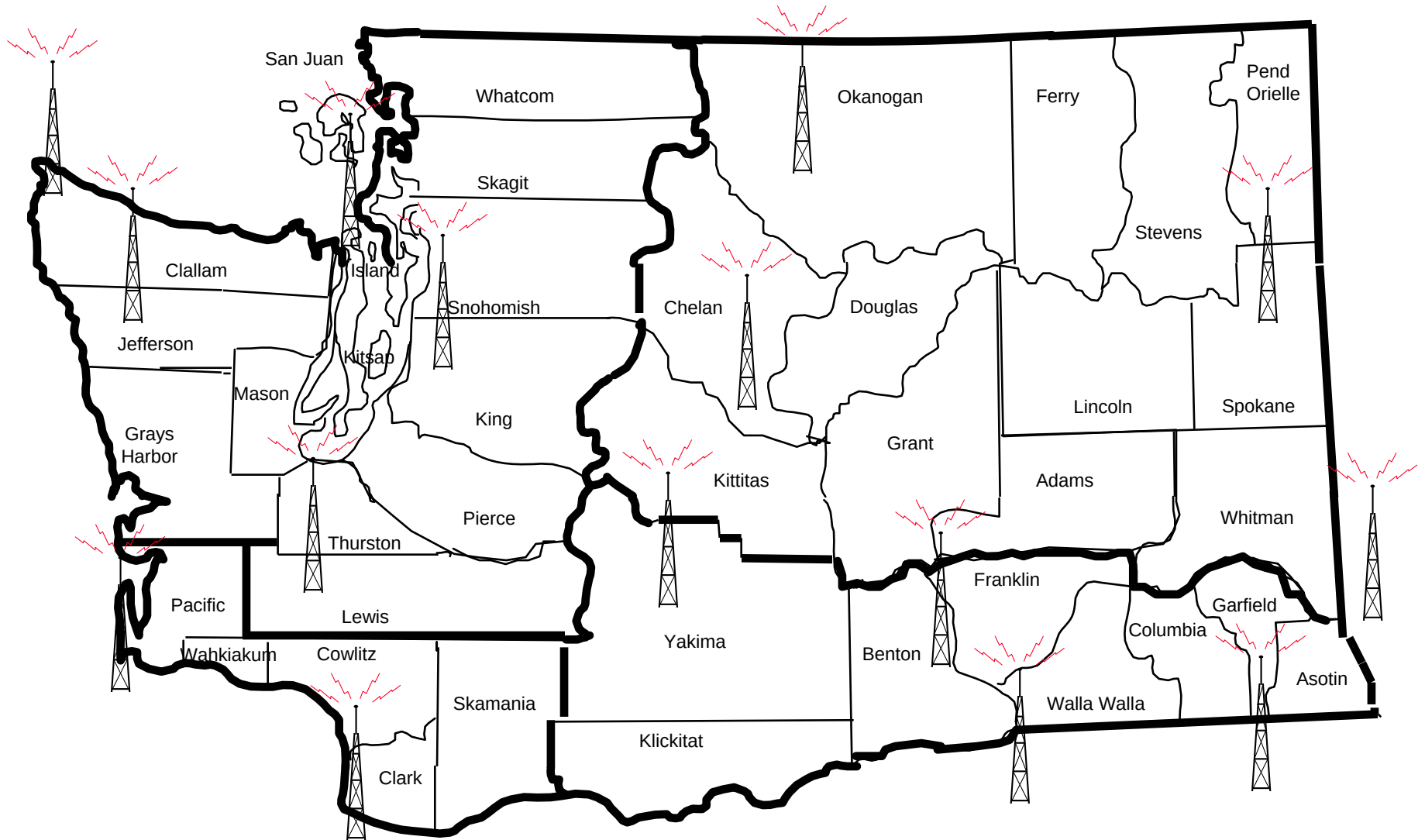
Michael Namchek

Program Coordinator 3
Telecommunications Technician

National Warning System (NAWAS)

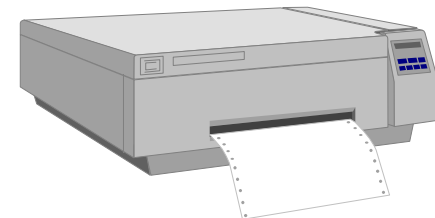
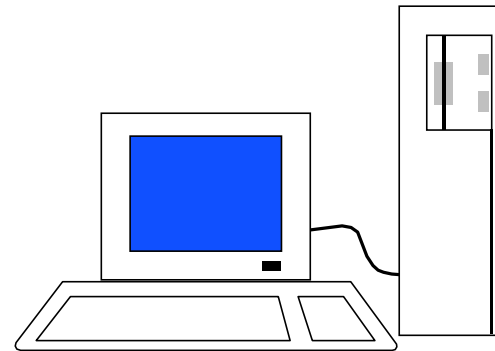


Weather Radio System



A Central Computerized Enforcement Service System (ACCESS)

- **WSP landline data system**
- **Used to pass warning and notification information to local jurisdictions.**
- **Used to receive and disseminate National Weather Service, weather information.**



Other Warning Systems

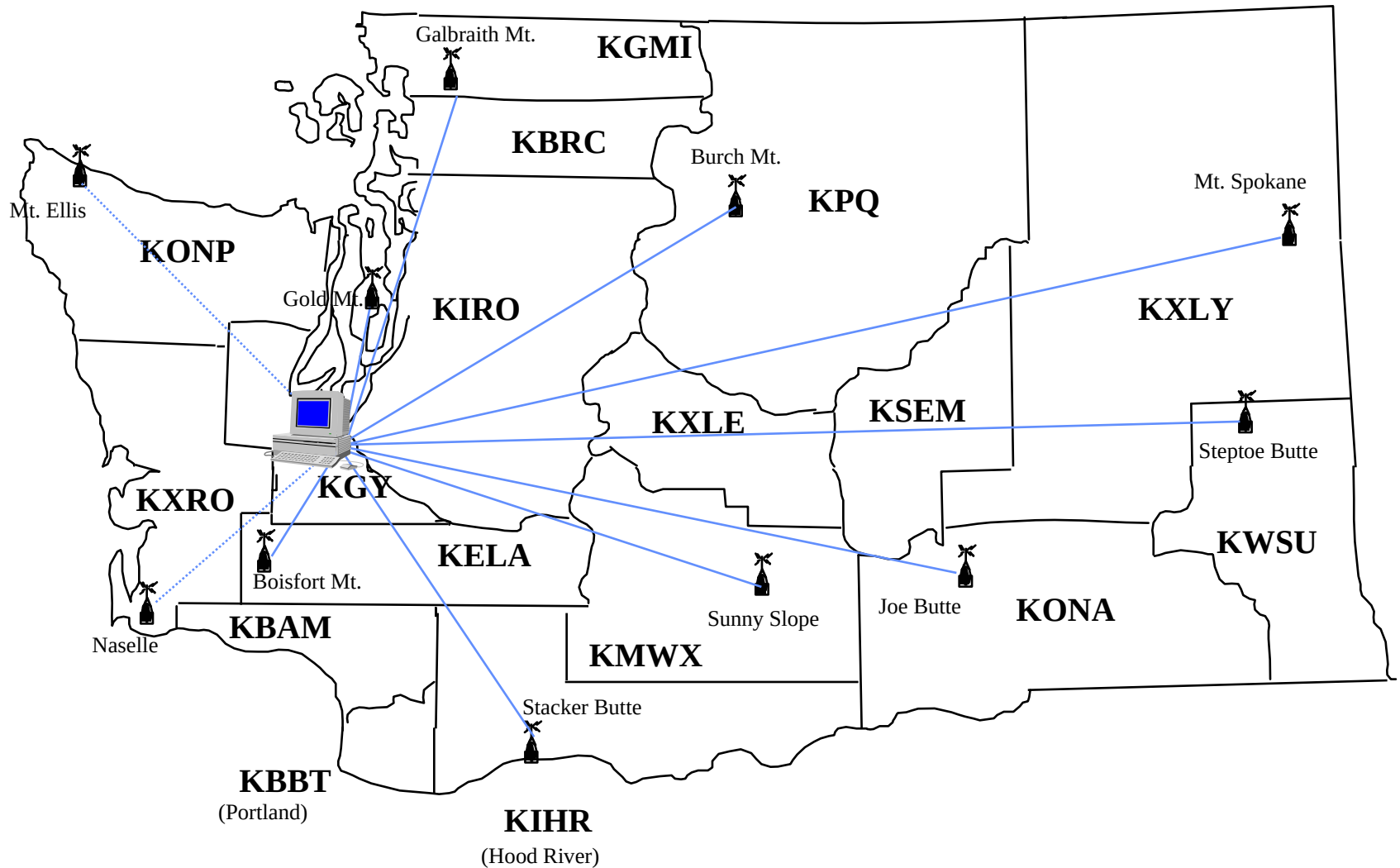


- **Lahar Warning System –**
Established by USGS to alert
Pierce County and the State
EOC when sensors along
Carbon and Puyallup river
beds detect a lahar/mudslide
from Mount Ranier.
- **CISN – California Internet
Seismology Network**
- **Tsunami Siren System**
- **Hanford System**
- **CSEPP System**

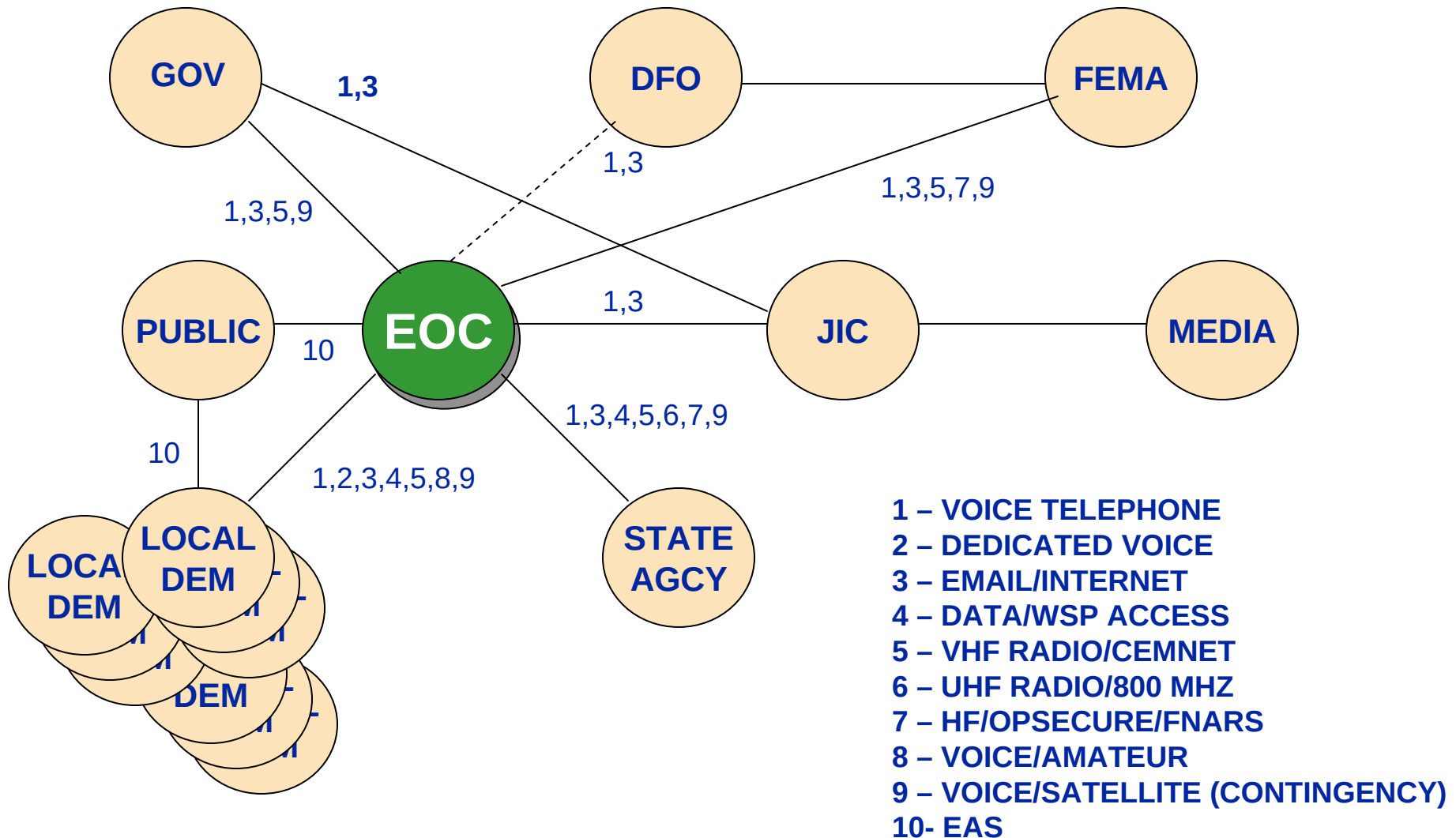
What EAS Message ?



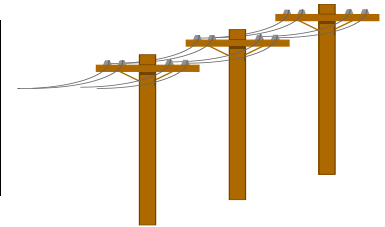
Washington EAS State Relay Network



SYSTEMS CONNECTIVITY



Supporting Systems



- **EMD Microwave Radio System connects to WSP System**
- **WSP Microwave Radio System**
 - CEMNET control lines for 14 base stations
 - EAS state relay network via 11 NLECS repeaters
 - ACCESS
 - WSP telephone system access at State EOC.
 - Dedicated circuits to Columbia Generating Station and U.S. DOE (Richland)
- **Department of Transportation Microwave Radio System**
 - NOAA Weather Wire
- **Department of Information Services**
 - SCAN telephone services
 - Primary internet connectivity via Qwest-DIS-UW circuits
 - Alternate internet via Noanet, Comcast and broadband satellite
- **UW Telephone Trunking connectivity**



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Telephone

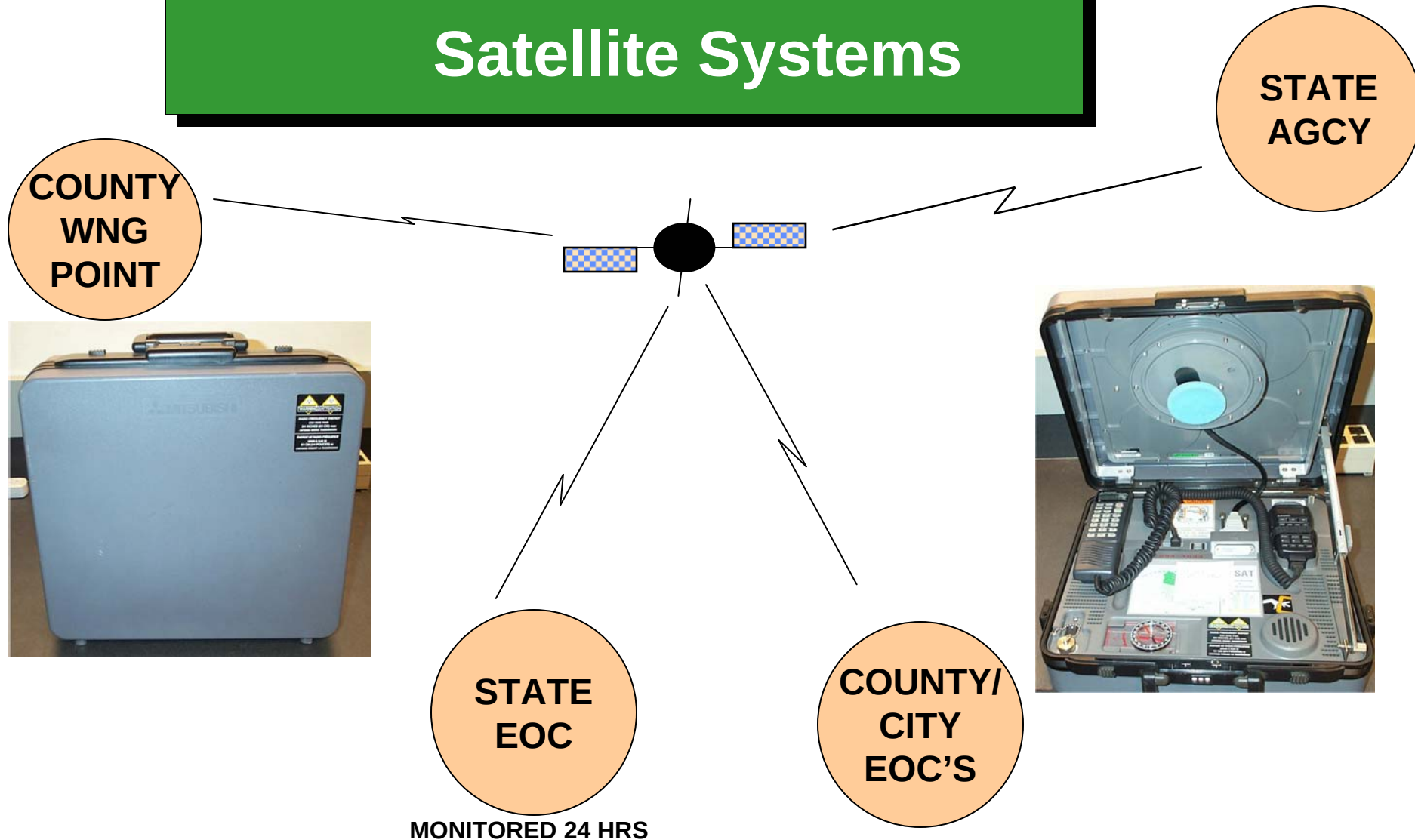


- **Primary means of communications**
- **PBX Ayava G3si**
- **Use Direct-Inward-Dial for incoming calls, Centrex service for outgoing calls via SCAN**





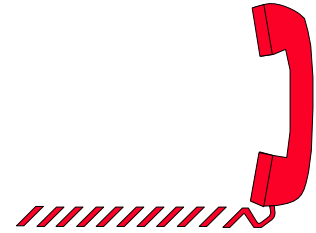
Satellite Systems



9 – TRANSPORTABLE SATELLITE PHONES PREPOSITIONED.

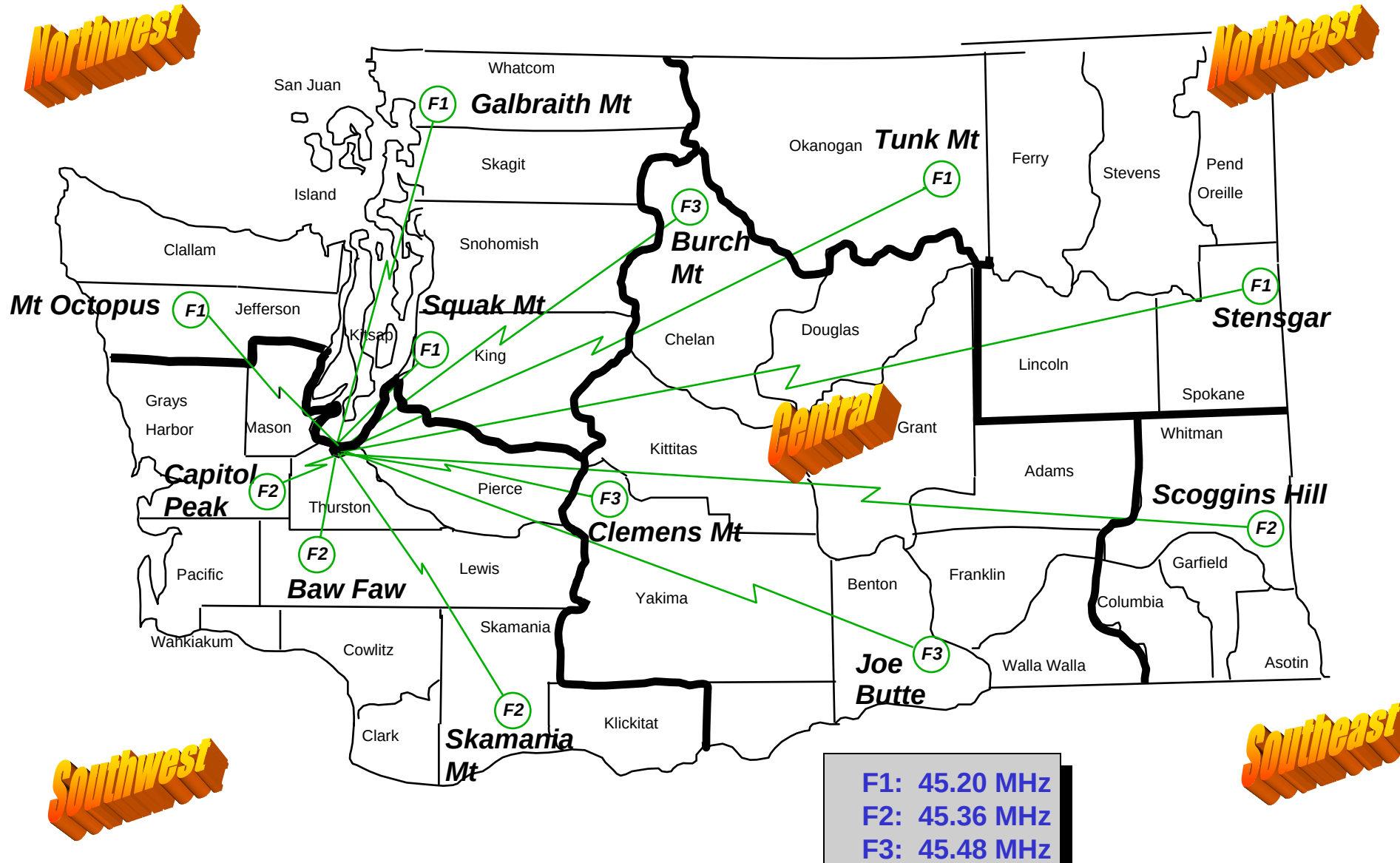
Whatcom, Spokane, Skamania, Pend Orielle, Mason, Klickitat, Chelan, Benton, Asotin
15 – TRANSPORTABLE SATELLITE PHONES AT STATE EOC.

Dedicated Circuits



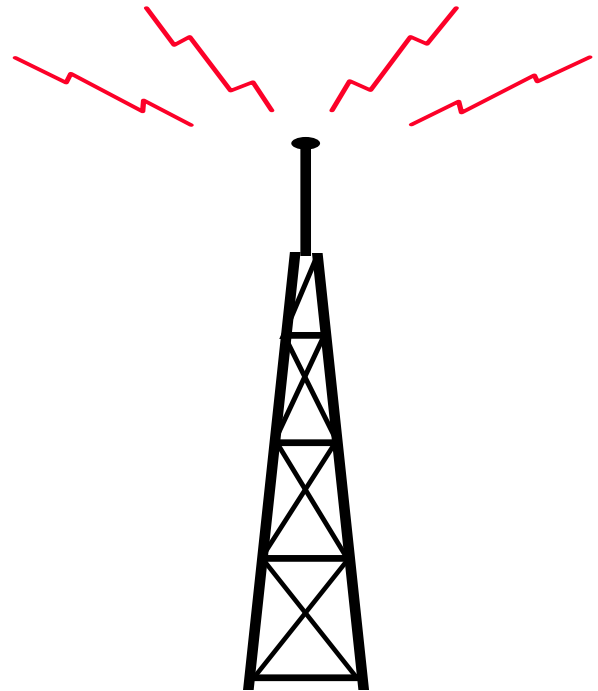
- **Columbia Generating Station**
 - “Crash” hotline
 - Two (2) “Select Dial” lines
 - Facsimile line
- **Umatilla Army Depot Activity**
 - “Crash” hotline
 - “Select Dial” line
- **U.S. Department of Energy, Richland**
 - “Crash” hotline

Washington State Comprehensive Emergency Management Network (CEMNET)



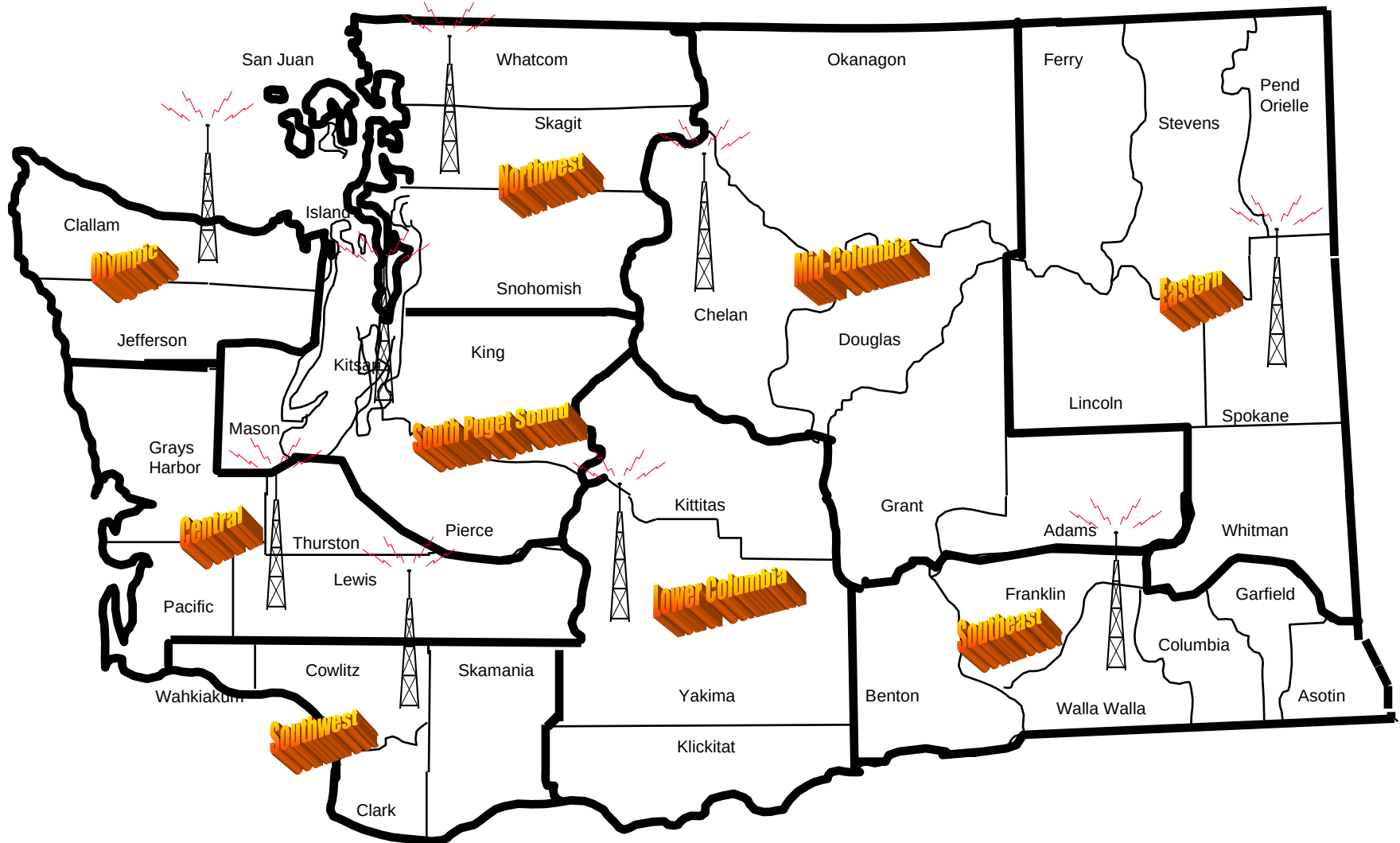
Radio Amateur Civil Emergency Services (RACES)

- **FEMA sponsored program for ensuring emergency communications are available**
- **Support provided by amateur radio licensed, emergency worker registered volunteers**
- **Support includes voice and packet radio capabilities**
- **State RACES plan governs how amateurs are to be used.**
- **Establishes nine RACES regions**





Washington State Radio Amateur Civil Emergency Services (RACES) Regions



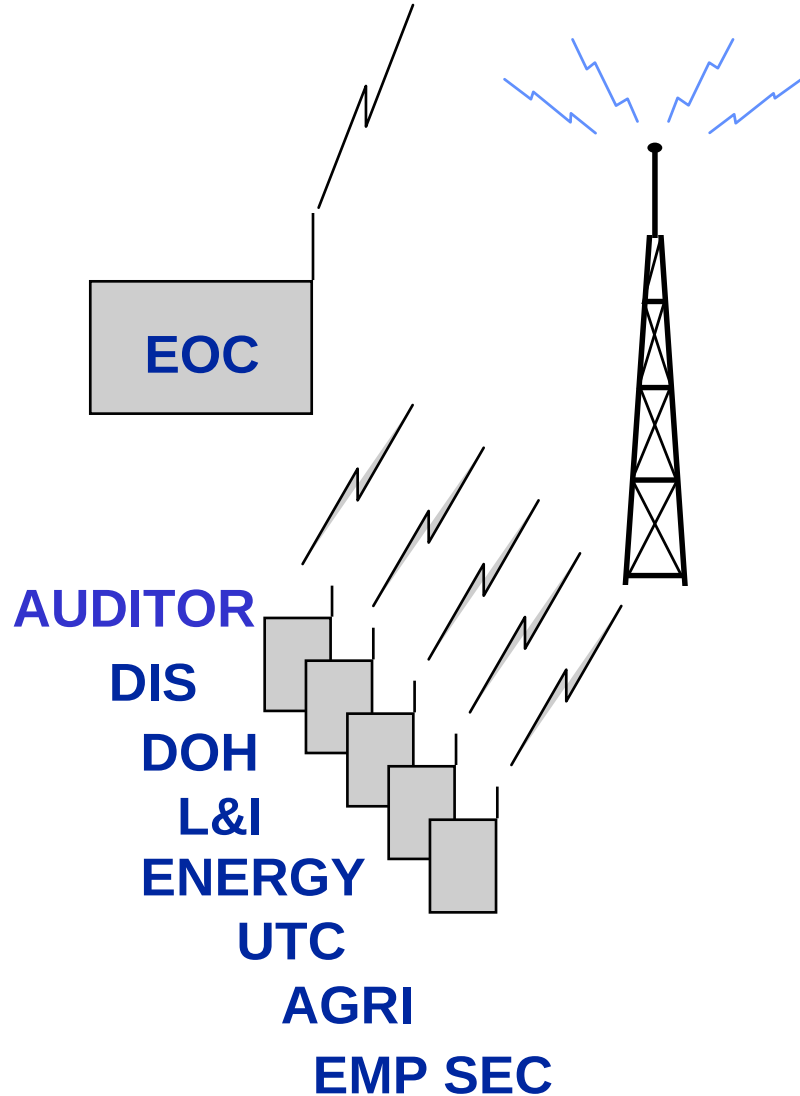


-Viktor-

Photo by Vincent Laforet / The New York Times

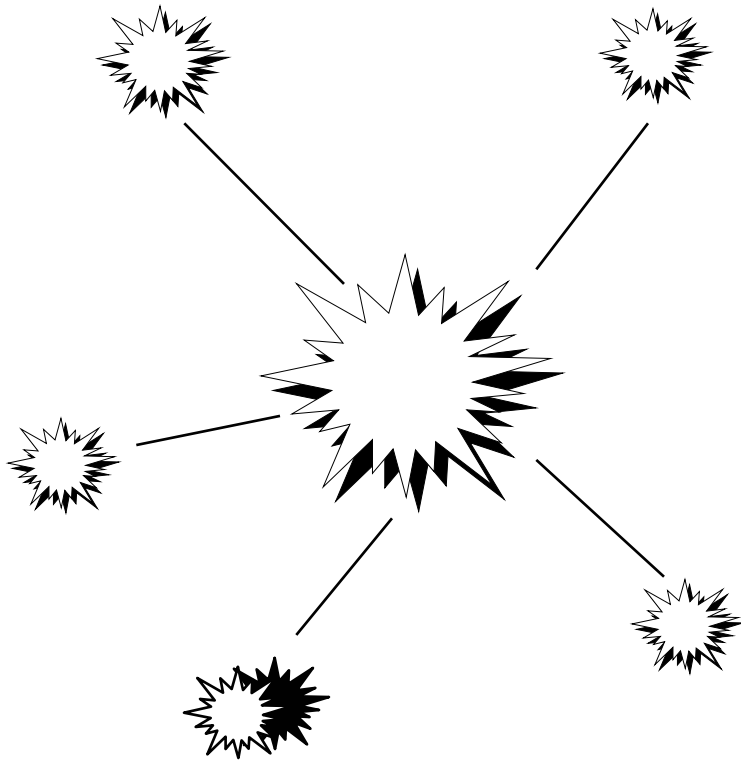


800 Mhz State Agency Emergency Network (STAEN)



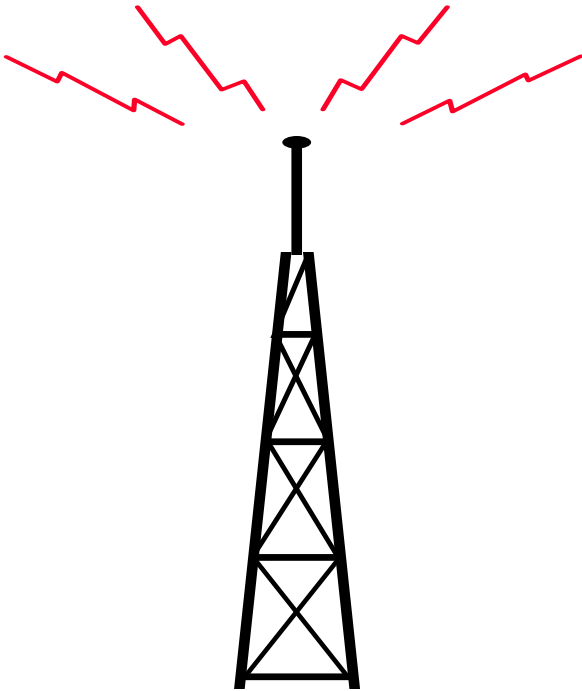
- Uses an additional repeater on DOT system at Capitol Peak
- State EOC monitors a control station on a 24-hour basis and serves as net control
- Network used on an emergency basis on a specific “talk group”
- Periodically tested to ensure availability

State Emergency Communications using Radio Effectively (SECURE)



- **Emergency HF radio capability used on a point-to-point basis as needed**
- **Licensed to operate up to five mobile stations anywhere within the state**
- **A permanent station located at the State EOC is licensed and programmed to operate on eight discrete frequencies**
- **WSP has one station in each district communications center**
- **Tested on a quarterly basis**

Other Radio Capabilities

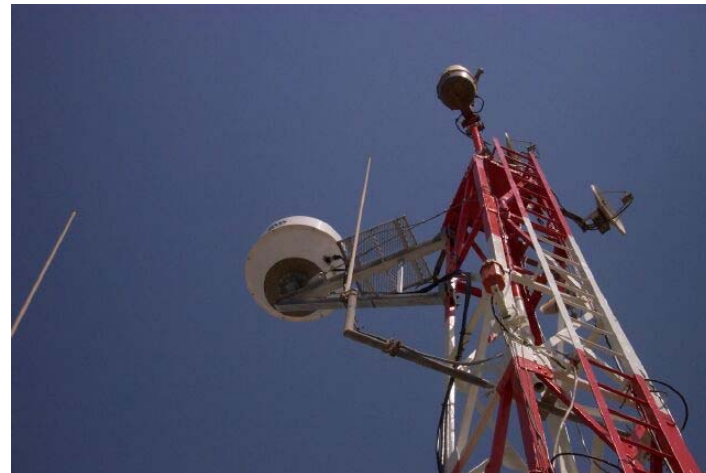


- **DNR VHF RADIO**
- **AIR/GROUND VHF RADIO**
- **800 MHZ – KING, BENTON and WSDOT**
- **FEMA MERS VHF RADIO**
- **HF - FEMA NATIONAL RADIO SYSTEM (FNARS)**
- **WSP – NATIONAL LAW ENFORCEMENT CHANNEL**
- **OPSCAN RADIO OVER IP NETWORK**
- **OSCCR RADIO OVER IP (being installed)**



Microwave Central Receiver Antenna

Washington State EMD/EOC



Forward Looking Infrared System

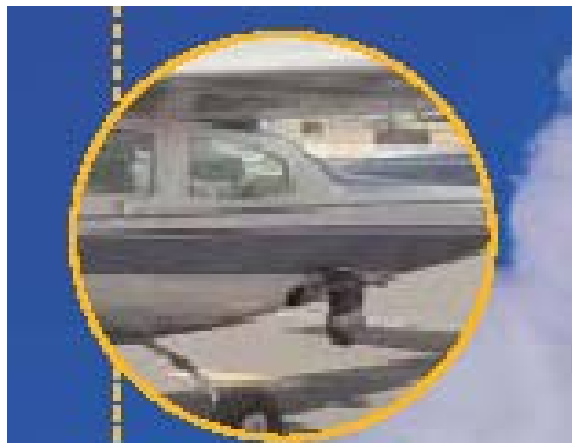
Washington State Patrol

Aviation Section





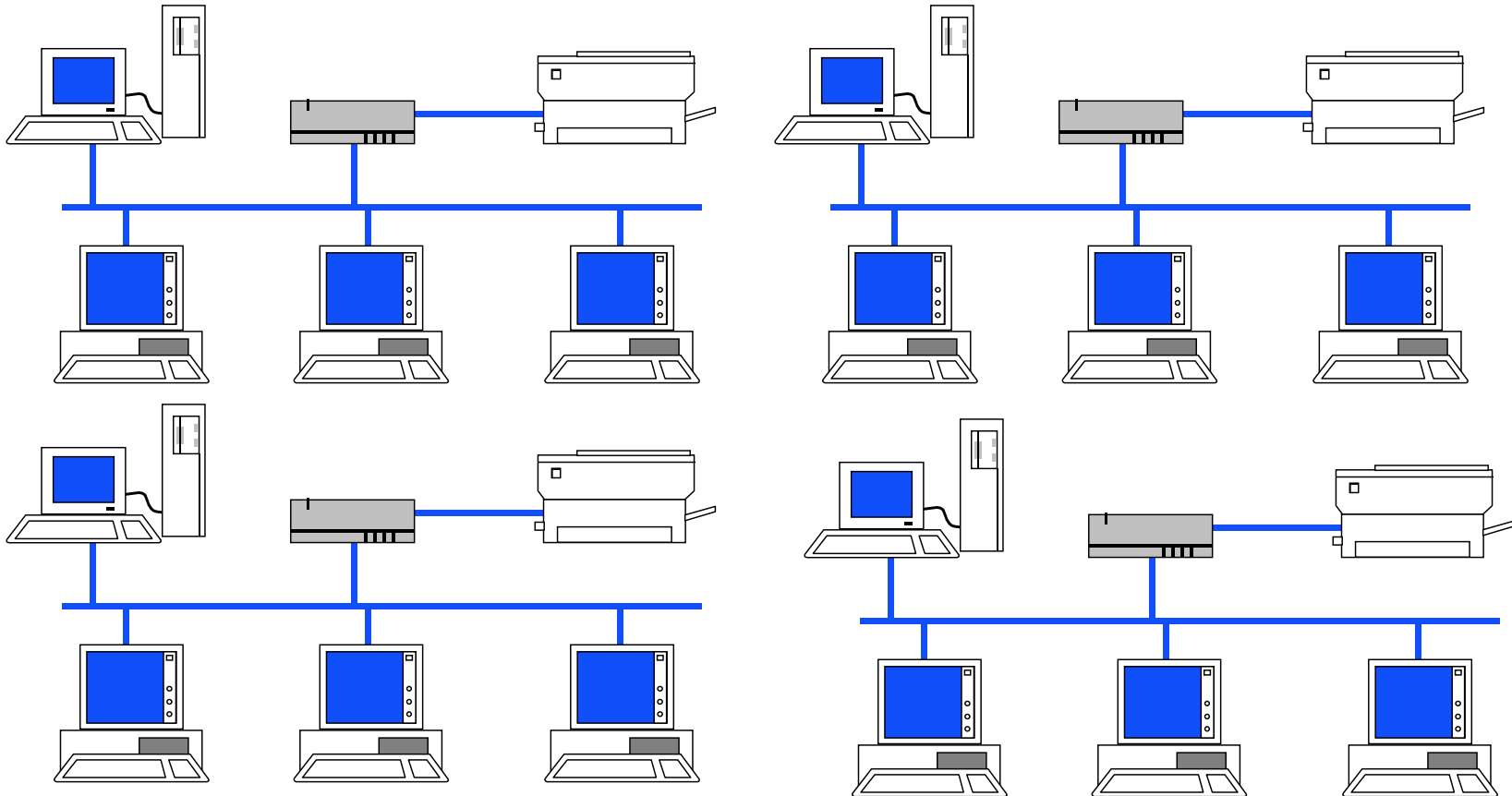
FLIR with Microwave Downlink



- ✓ Forward Looking Infrared (FLIR)
- ✓ Gyro-stabilized color camera with zoom lens and infrared optics
- ✓ Real-time air-to-ground audio/ video/data microwave downlinks
- ✓ Provides long-range, day and night, search and surveillance capabilities



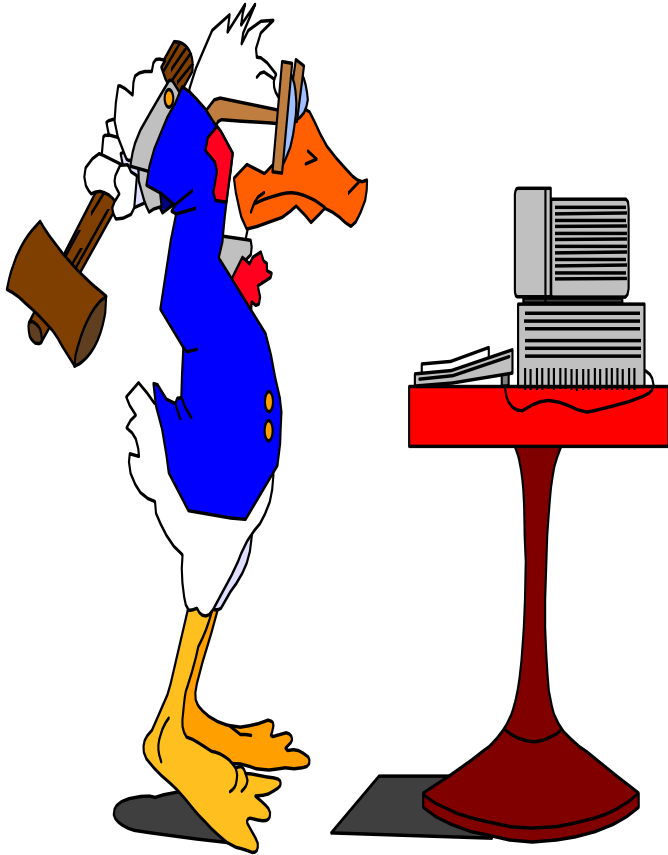
Information Systems



**LAN's, WAN's, VLAN's, VPN, Firewalls,
Intrusion Detection Systems, Switches,
Routers, Hubs, VoIP, printers, scanners**



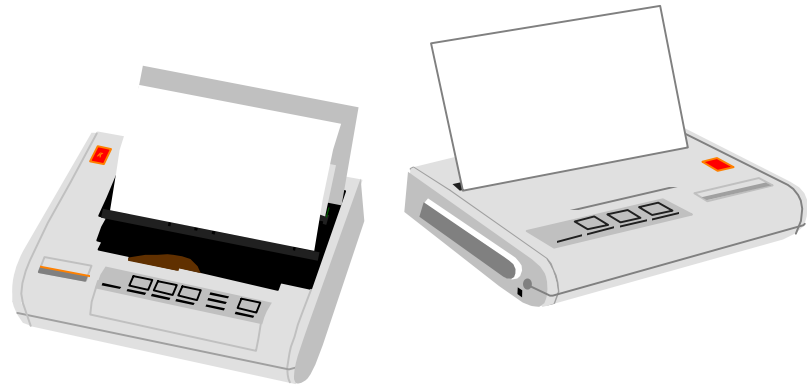
Applications



- Microsoft Windows 2003 Server
- WebEOC
- Microsoft Office Professional 2003
- Internet Explorer Browser
- OutLook
- Acrobat Reader 7.0
- Arc-View/Arc-Info
- HAZUS
- Cameo
- FEMIS
- AutoCad
- Visio
- Farscan
- SQL
- MapPoint
- Many single purpose applications

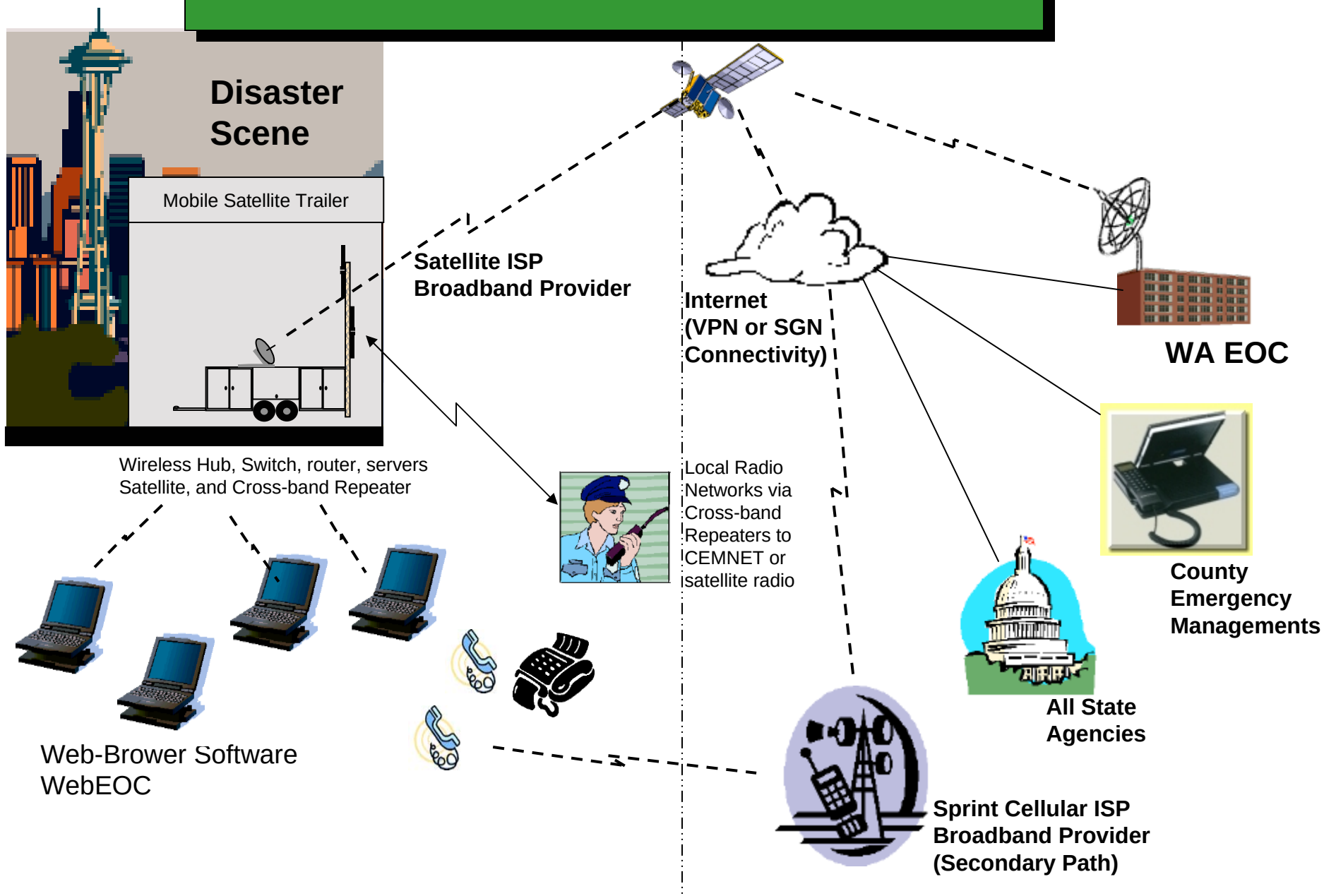
Contingency Equipment

- **“Fly-away” Kits**
 - Laptop computers
 - Cell phones/faxes
 - Portable VHF radios
- **Transportable Satellite Telephones**
- **Cellular Telephones**
- **Portable CEMNET base station**
- **Portable crossband repeater**
- **FEMA VHF portable radios**
- **Portable fax machines**





Mobile Satellite Trailer





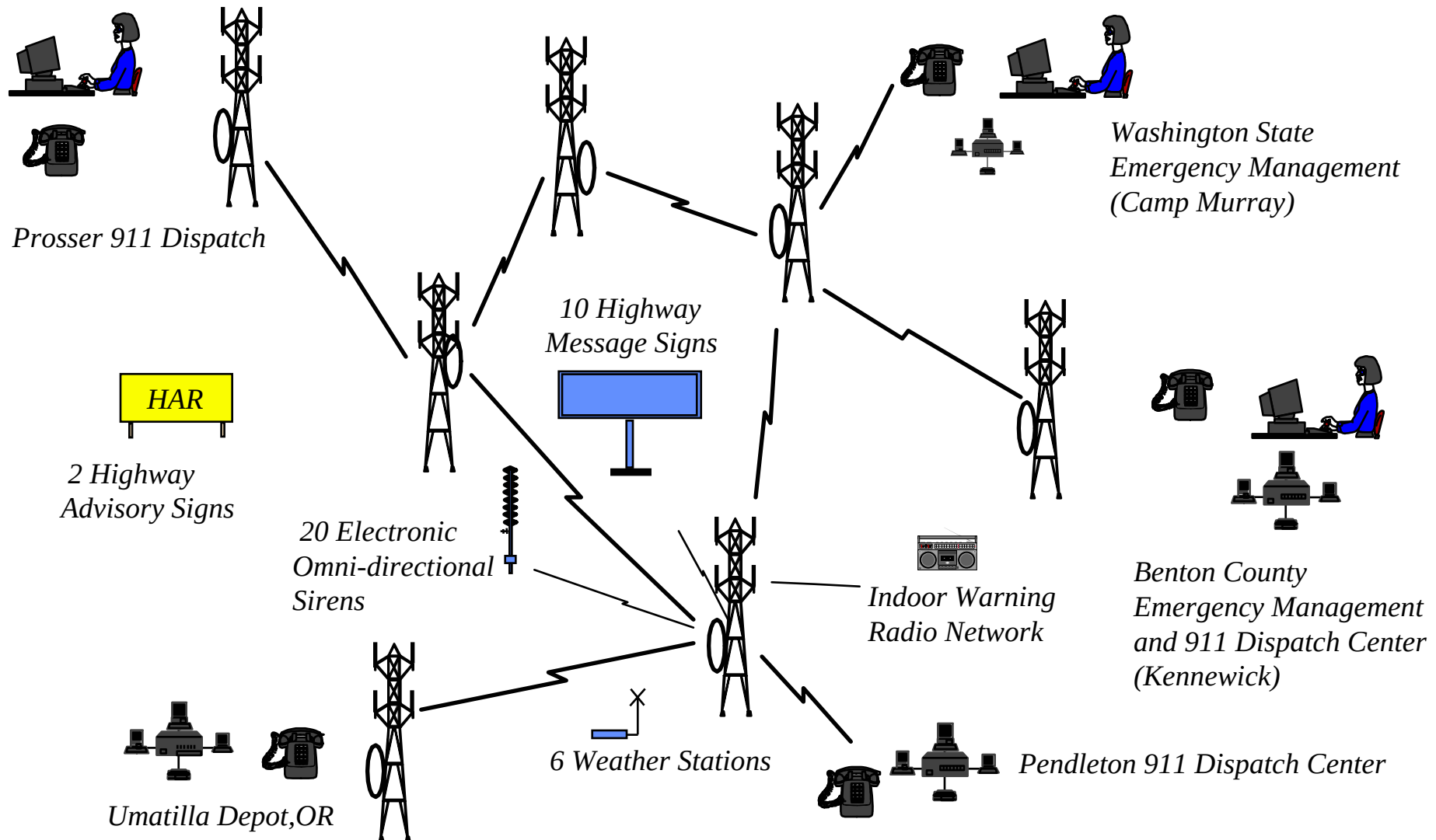
DIRECTV
DataStorm

EMERGENCY
MANAGEMENT





Washington CSEPP Systems



The First Auger Hole



Building and Tower Foundations



5' x 30' Tower Pier Foundation



45KW Propane Generators



Automatic Generator Transfer Switching



Battery Backup & UPS for all Systems



Dual Heating and Air Conditioning Systems



Prosser Courthouse



Prosser Butte

***Rattlesnake
Ridge
US DOE Site***

Benton County EOC



***Camp Murray
Leased and Microwave
circuits***



Joe Butte

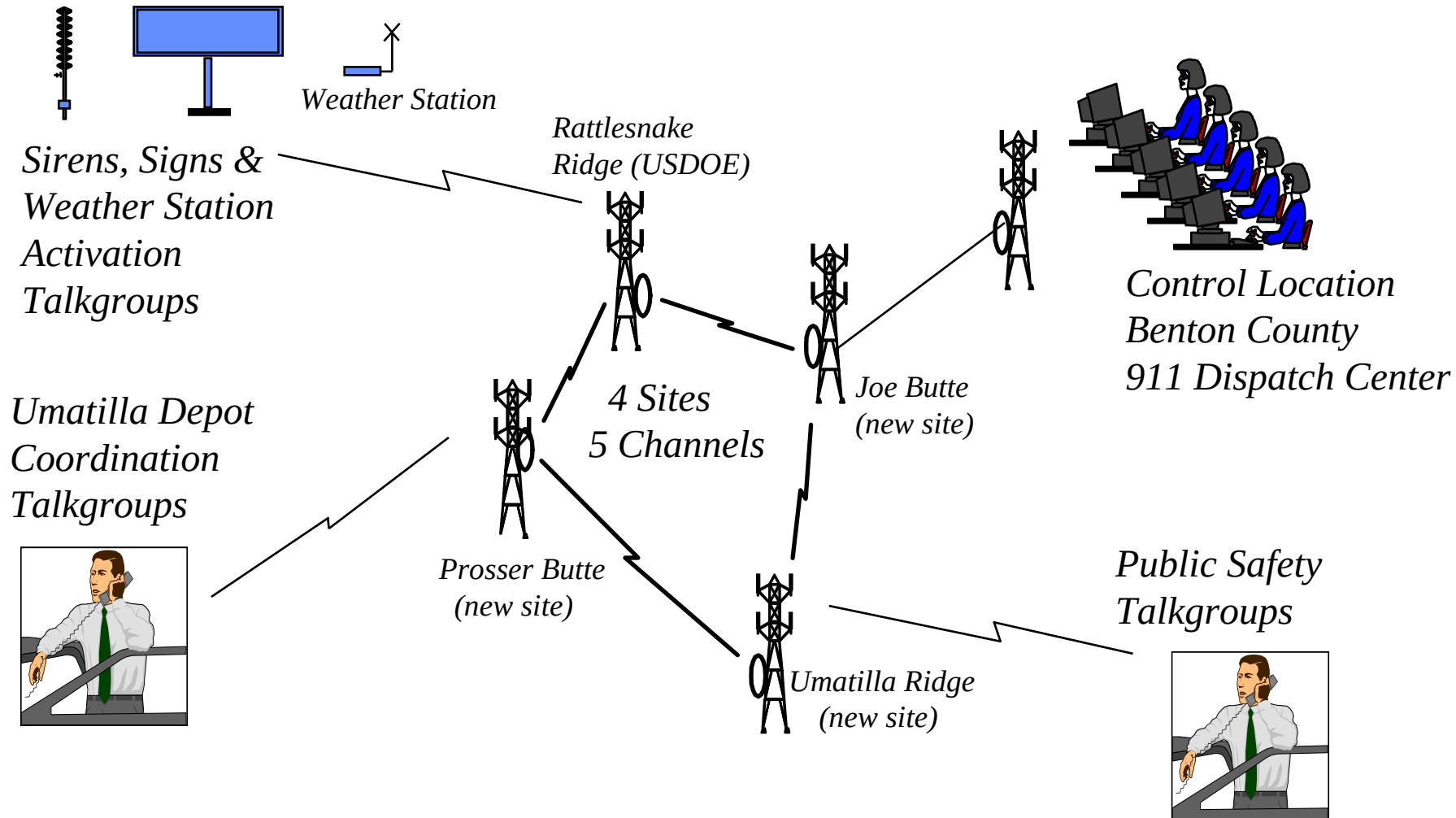
Umatilla Depot



Umatilla Ridge

***Oregon
Microwave System***

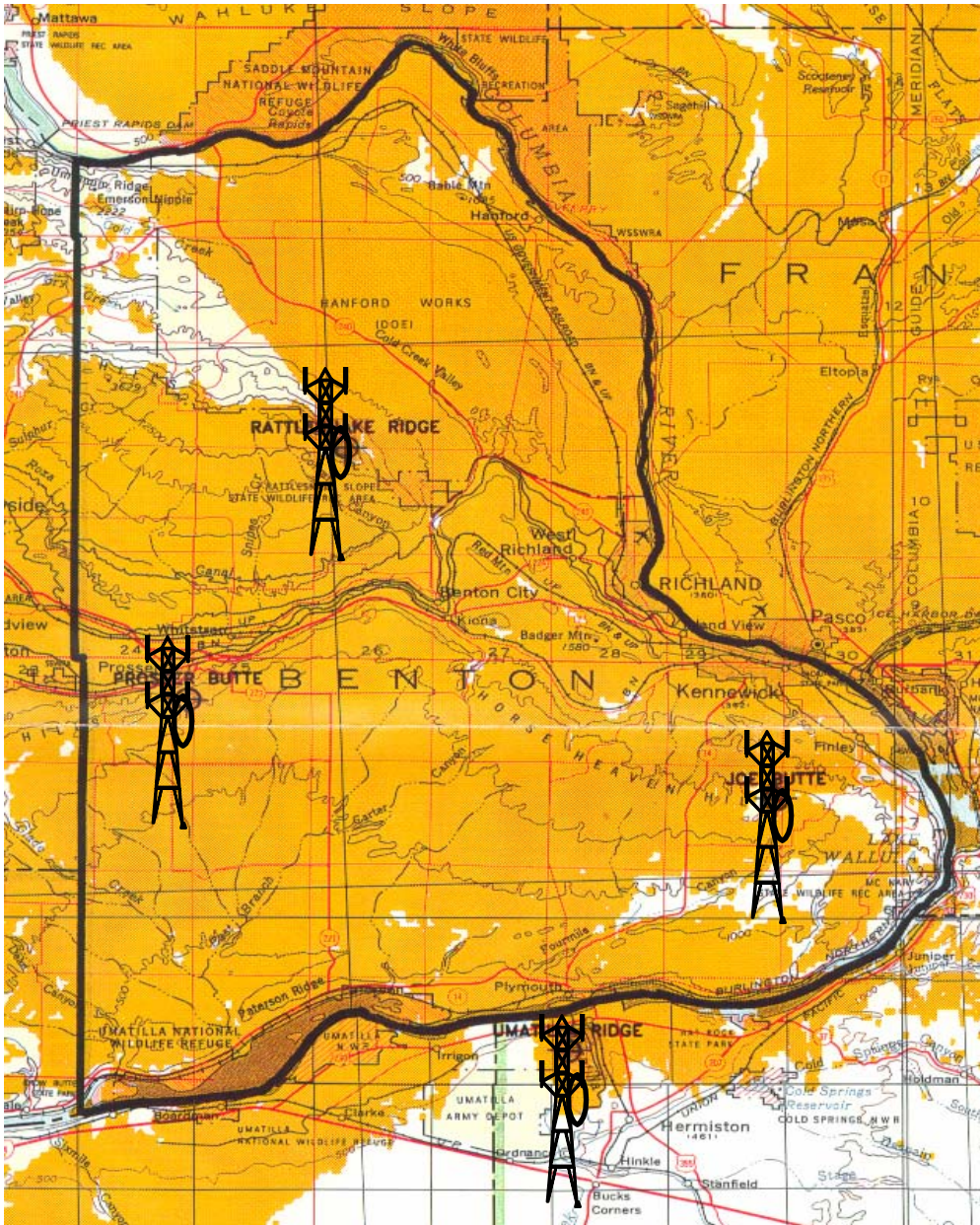
CSEPP Motorola “Smartnet” 800 Mhz Trunked Radio Network



Funded by CSEPP and Local Agencies.

Don Miller

800 MHz Coverage Map



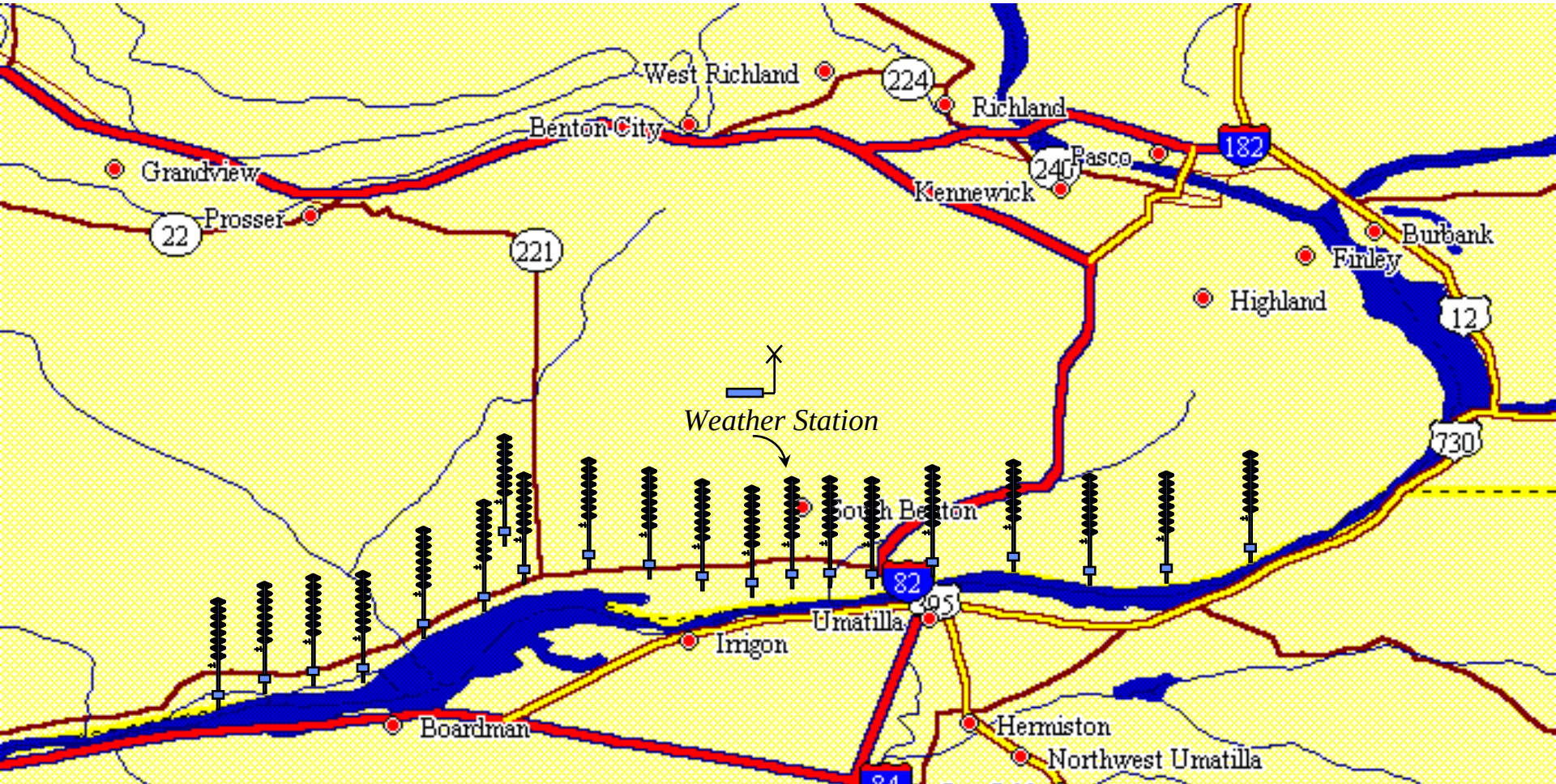
Digital Channel Bank Equipment



Joe Butte 800 MHz Equipment



CSEPP Siren System Map



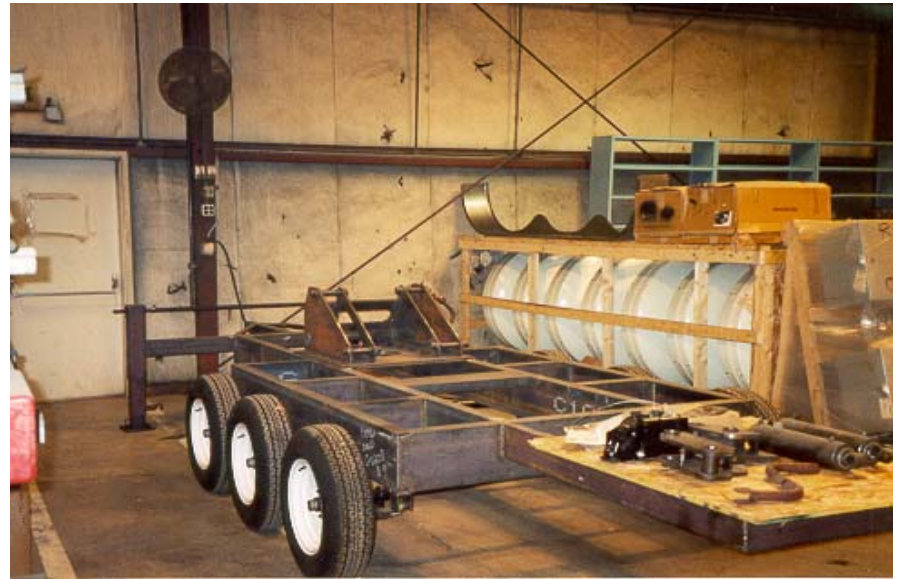
Funded entirely by CSEPP.

Don Miller

Typical Siren Installation



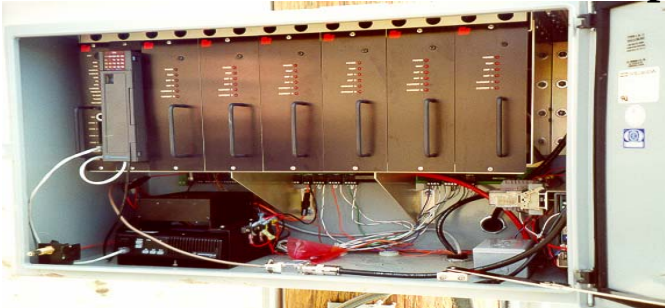
Trailer Siren in Construction



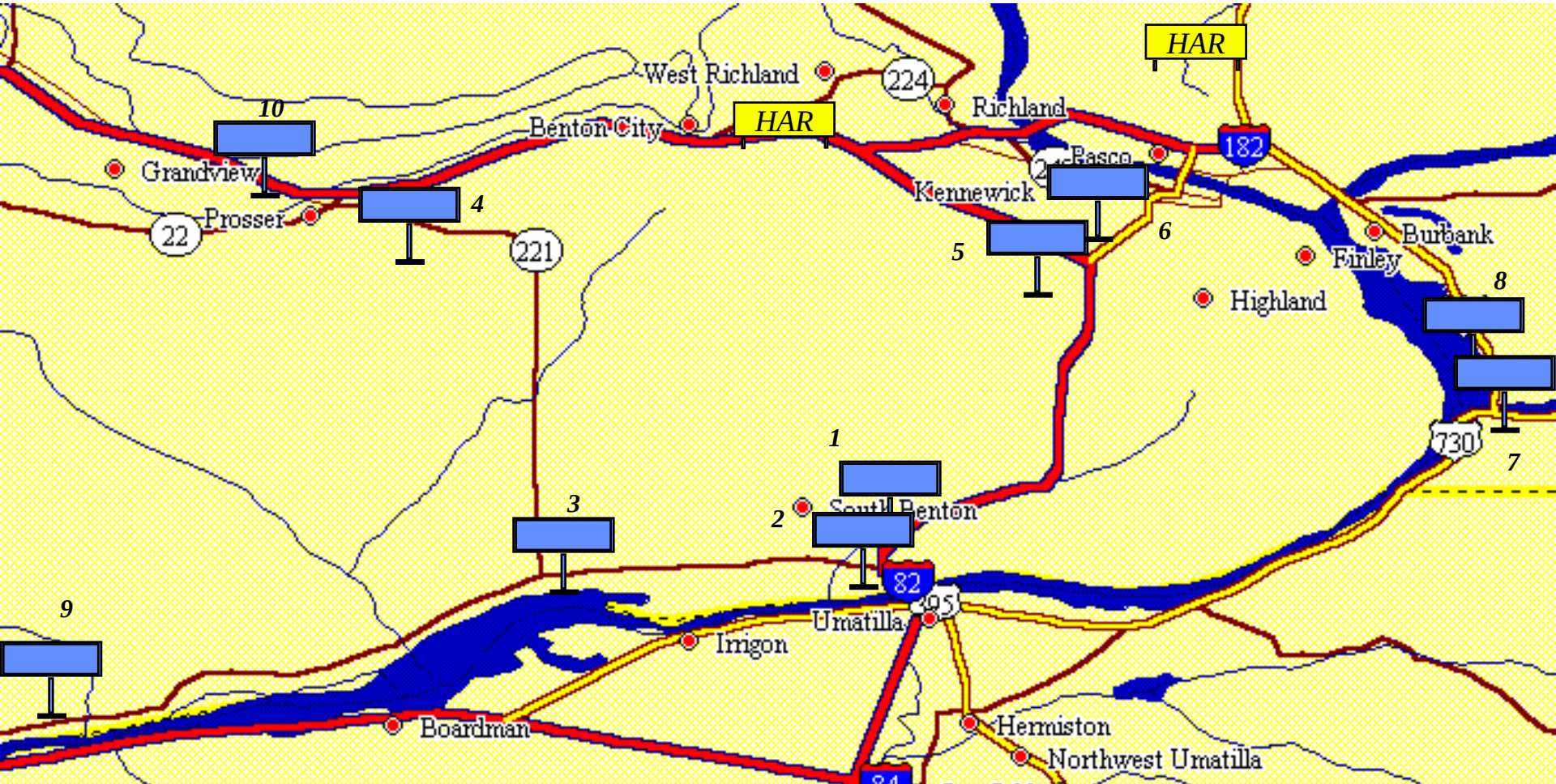
Paterson School Siren



Siren CPU, 800 Mhz radio & Amps



CSEPP Highway Message Signs Map



Funded entirely by CSEPP.

Don Miller

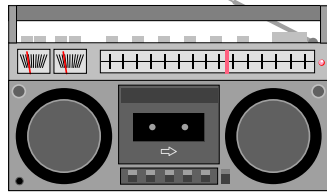
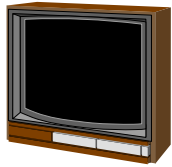
Variable Message Sign



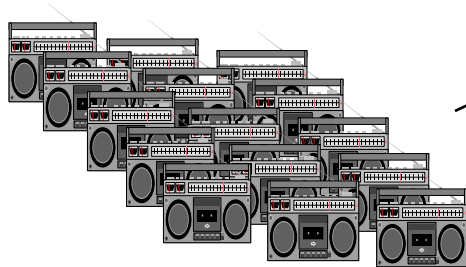
10 Variable Message Signs and 2 Highway Advisory Signs

CSEPP Emergency Alert System (EAS)

Cable & Network TV

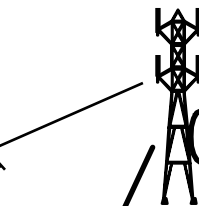


EAS Broadcast Network



*NWS Radio
Indoor Receivers*

*KONA FM and AM
LP-1 Station with CSEPP
provided Generator*



*Rattlesnake
Ridge (USDOE)*



*2 Sites w/Dual
Transmitters*

Umatilla Ridge



*Benton County EOC
911 Dispatch Center*



*Umatilla Army
Depot*

State Relay Network



*Washington State
Emergency
Management*

Funded by CSEPP except State Relay Network

CSEPP In-Home Warning Radios



Activated by special EAS Location and Event Codes
550 Radios in Businesses and Homes

Telecommunications Disaster Preparedness Checklist (<http://emd.wa.gov/>)

1. **Recovery Strategy Overview** – A description of the methods that provide recovery capability over the full spectrum of incidents.
2. **Recovery Team Information** – The name, role, and telephone number for the recovery team leaders and members.
3. **Notification Procedures** – A description of the methods used to notify recovery personnel during business and non-business hours.
4. **Recovery Team Responsibilities** – An overview of team member roles and responsibilities in a contingency situation.
5. **Recovery Priorities** – A prioritized sequence of recovery activities based upon the business impact analysis.
6. **Restoration Procedures** – Step-by-step procedures in sequential order to restore data communications.
7. **Vendor and Supplier Information** – The name, address, and telephone number of telecommunications vendors and suppliers.
8. **Critical Telephone List** – The name and telephone number of other critical personnel that may be needed during the recovery process.
9. **Network/Circuit Diagrams** – High- and low-level topologies that depict the interconnectivity between networks.
10. **Hardware and Software Inventory** – A listing of physical hardware (i.e., circuits, routers, and switches) and computer software.
11. **System Backup Requirements** – File backup frequency and rotation schedule for critical files stored at the off-premises facility.
12. **Listing of Internet Protocol (IP) Addresses and Circuits** – A listing of the IP addresses and circuits for both the facility and other supported sites.
13. **Off-premises Storage Information** – The name, address, and telephone number of the off-premises storage facility.
14. **Record of Changes** – A record of plan modifications that includes the page number, change comment, and date of change.



Questions ?